

Note to readers with disabilities: *EHP* strives to ensure that all journal content is accessible to all readers. However, some figures and Supplemental Material published in *EHP* articles may not conform to [508 standards](#) due to the complexity of the information being presented. If you need assistance accessing journal content, please contact ehp508@niehs.nih.gov. Our staff will work with you to assess and meet your accessibility needs within 3 working days.

Supplemental Material

Individual and Neighborhood Socioeconomic Status and the Association between Air Pollution and Cardiovascular Disease

Gloria C. Chi, Anjum Hajat, Chloe E. Bird, Mark R. Cullen, Beth Ann Griffin, Kristin A. Miller, Regina A. Shih, Marcia L. Stefanick, Sverre Vedal, Eric A. Whitsel, and Joel D. Kaufman

Table of Contents

Women's Health Initiative Classification Criteria for Cardiovascular Disease Events

Cross-level Interaction

Multiple Imputation

Table S1. Standardized mean differences of participant characteristics between complete cases and original eligible sample of women CVD-free at baseline.

Table S2. Correlation Matrix of Socioeconomic Indicators.

Table S3. Baseline population characteristics by cardiovascular event incidence.

Table S4. Estimated hazard ratios for time to first cardiovascular event associated with 5 $\mu\text{g}/\text{m}^3$ higher exposure to $\text{PM}_{2.5}$, by different levels of covariate adjustment and with additional adjustment for each socioeconomic measure.

Table S5. Estimated hazard ratios for time to first cardiovascular event associated with 5 $\mu\text{g}/\text{m}^3$ higher exposure to baseline $\text{PM}_{2.5}$ from multiple imputation analysis.

Table S6. Estimated hazard ratios for time to first cardiovascular event associated with 5 $\mu\text{g}/\text{m}^3$ higher exposure to $\text{PM}_{2.5}$ according to levels of SES and p -values for interactions, from multiple imputation analysis.

Figure S1. Scatter plot of first predicted annual average $\text{PM}_{2.5}$ by neighborhood socioeconomic status (NSES) score with a locally weighted scatterplot smoothing (LOWESS) curve. For most participants, the first available $\text{PM}_{2.5}$ prediction was the baseline prediction; otherwise, the next available non-missing $\text{PM}_{2.5}$ prediction was used.

Figure S2. Estimated Hazard Ratios for Time to First Cardiovascular Event Associated with 5 $\mu\text{g}/\text{m}^3$ Higher Exposure to Fine Particulate Matter ($\text{PM}_{2.5}$) According to Combined Levels of Individual and Neighborhood Socioeconomic Status (SES) and P values for interactions, Women's Health Initiative Observational Study, 1993-2005. All models except for the NSES score model (see below) adjusted for age, race/ethnicity, smoking, body mass index, diabetes, hypertension, hypercholesterolemia, individual education, individual family income, individual occupation, percent adults over 25 years with high school degree, median family income, percent of civilian population over 16 with professional/managerial/executive occupations, median value of owner-occupied housing units, and percent of families above poverty line. Effect modification was modeled by adding multiplicative interaction terms. The NSES score model adjusted for individual SES indicators but not other NSES indicators. A) Estimated hazard ratios by levels of combined NSES and individual education. Low/Low participants have low individual education and low neighborhood SES (NSES). Low/High participants have low education and high NSES or high education and low NSES. High/High participants have high education and high NSES. B) Estimated hazard ratios by levels of combined NSES and individual income. Low/Low participants have low individual income and low NSES. Low/High participants have low income and high NSES or high income and low NSES. High/High participants have high income and high NSES.